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Diana M. Doumas
Boise State University

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Alcohol Use and Drinking Motives Among Sanctioned and Non-Sanctioned Students

Diana M. Dumas

Department of Counselor Education
Institute for the Study of Addiction
Boise State University
dianadoumas@boisestate.edu

Abstract

This study examined differences in the relationship of drinking motives to drinking behavior among sanctioned and non-sanctioned first year students (N = 298). Results of hierarchical regression analyses indicated for both sanctioned and non-sanctioned students, alcohol use was predicted by social and enhancement motives and alcohol-related consequences were predicted by social, enhancement, and coping motives. Additionally, high levels of conformity motives predicted alcohol use and alcohol-related consequences for sanctioned students only. Counseling implications are discussed.

Keywords: sanctioned students; alcohol use; drinking motives

Students who receive sanctions for violating campus alcohol policies have been identified as a high-risk group for heavy drinking relative to the general college population (Larimer & Cronce, 2002; 2007). Studies examining drinking patterns on college campuses indicate that sanctioned students drink more heavily and report more alcohol-related problems than other college students (see Barnett & Read, 2005). In multiple studies examining interventions for sanctioned students, demographic data indicate the majority of sanctioned students are in their first year of college (e.g. Barnett, Murphy, Colby, & Monti, 2007; Carey, Carey, Henson, Maisto, & DeMartini, 2011; Cimini, Martens, Larimer, Kilmer, Neighbors, & Monserrat, 2009; Dumas, McKinley, & Book, 2009; Dumas, Workman, Smith, & Navarro, 2011; White, Mun, & Morgan, 2008). Further, relative to upperclassmen, first year students drink more drinks, engage in heavy drinking episodes more frequently (Turrisi, Padella, & Wiermsa, 2000), and are more likely to be arrested for alcohol-related incidents (Thompson, Leinfelt, & Smyth, 2006). Thus, it is important to identify risk factors for first year sanctioned students that may distinguish them from non-sanctioned students to design effective prevention and intervention programs.

Despite the high-risk status afforded to first year sanctioned students, factors related to heavy drinking have been understudied in this population. Although there is a large body of research examining interventions for sanctioned students and differences in drinking patterns between sanctioned and non-sanctioned college students, the research examining other differences between sanctioned and non-sanctioned students is extremely limited. In one study examining differences between adjudicated and volunteer first year male students, results indicated adjudicated students were more likely to be Caucasian, from a higher income family, and report higher levels of heavy drinking, higher positive alcohol expectancies, including social enhancement and social and physical pleasure, less concern about their health, and less tension than volunteer students (LaBrie, Tawalbeh, & Earlywine, 2006). Additionally, results indicted concern about health, level of tension, alcohol expectancies, and family income significantly predicted adjudicated status. This study provides information regarding factors that may increase first year students' risk for receiving sanctions for violating campus alcohol policies.

Another potential area of exploration that may increase our understanding of high-risk drinking in sanctioned students is the examination of drinking motives. A growing body of research examining motivational drinking models in college students has identified specific types of drinking motives as important predictors of alcohol-related problems among college students. Drinking motives represent reasons to drink, or the function of alcohol use, and have been conceptualized across two underlying dimensions: positively or negatively reinforcing motives and internal or external motives (Cox & Klinger, 1988). This model generates four drinking motives: positively reinforcing internal motives (drinking to enhance positive mood states), positively reinforcing external motives (drinking to increase pleasure in social situations), negatively reinforcing internal motives (drinking to regulate negative mood states), and negatively reinforcing external motives (drinking to avoid rejection of peers). These

motivations are often measured using the Drinking Motives Questionnaire – Revised (DMQ-R; Cooper, 1994) which measures four drinking motives that correspond to the above model: enhancement, social, coping, and conformity. Confirmatory factor analysis indicates this 4-factor model fits college students significantly better than other models (MacLean & Lecci, 2000; Martens, Rocha, Martin, & Serrao, 2008).

Reviews of the literature indicate adolescents and young adults are most likely to drink for social or enhancement reasons (Kuntsche, Knibbe, Gmel, & Engel, 2005; Kuntsche, Knibbe, Gmel, & Engel, 2006), whereas enhancement and coping motives are generally related to heavy drinking and negative drinking outcomes (Kuntsche et al., 2005). Similarly, recent research conducted specifically with first year college students indicates enhancement motives are associated with heavy drinking (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). In general, drinking motives associated with internally generated motives like experiencing an increase in pleasant feelings when using alcohol (e.g., enhancement motives) or a decrease in unpleasant feelings (e.g., coping motives) have stronger relationships with alcohol use and alcohol-related outcomes than externally generated motives like drinking to enjoy a party (e.g. social motives) or drinking to fit in with the expectations of others (e.g. conformity motives) (Martens, Pedersen, Smith, Stewart, & O'Brien, 2011).

Although motivational models of drinking have been extensively studied in college students and provide a useful framework for understanding alcohol use and heavy drinking, to date, only one study has examined differences in drinking motives between sanctioned and non-sanctioned students (LaBrie, Hummer, & Pederson, 2007). Results of this study indicate that of three drinking motives examined, social camaraderie, mood enhancement, and tension reduction, social camaraderie was the highest endorsed drinking motive and was a significant predictor of alcohol-related consequences for females, but not males, in both an adjudicated and volunteer sample. Although this study adds to the literature identifying social camaraderie as an important predictor of alcohol-related consequences for female students, the authors suggest the importance of replicating findings with alternative scales, such as the DMQ-R (Cooper, 1994), as this measure includes conformity motives in addition to social, enhancement, and coping motives.

Because sanctioned students have been identified as a high-risk group for heavy drinking relative to the general college population (Larimer & Cronce, 2002; 2007), it is important to identify factors that distinguish sanctioned from non-sanctioned students to guide the development of early intervention efforts for this group of students. To date, however, there is very little research examining these factors. Thus, the aim of the current study is to extend the literature by examining the relationship of drinking motives to alcohol use and alcohol-related consequences among sanctioned and non-sanctioned first year students. As suggested by LaBrie and colleagues (2007), the DMQ-R was selected to assess drinking motives, as this measure includes conformity motives in addition to social, enhancement, and coping motives.

Additionally, this study will examine gender as a moderator of the relationship between drinking motives and drinking variables. Prior research indicates drinking for social reasons, specifically social camaraderie, is a significant predictor of alcohol-related consequences for females, but not males, in both an adjudicated and volunteer sample (LaBrie et al., 2007). Thus, it is important to examine gender as a moderator to determine if drinking motives differentially predict alcohol use and alcohol-related consequences among male and female sanctioned and non-sanctioned students. Based on prior research (LaBrie et al., 2007), we anticipate the relationship between social motives and drinking behavior will be moderated by gender.

Method

Participants and Procedures

The current study includes students (N = 298) at a university in the northwest who participated in two alcohol intervention studies, one for sanctioned students (Doumas, Workman, Navarro, & Smith, 2011; Doumas, Workman, Smith, & Navarro, 2011) and one for non-sanctioned students (Doumas, Kane, Navarro, & Roman, 2011). Both of these studies were randomized controlled trials examining the efficacy of a brief web-based intervention. The data used in this study are part of the baseline survey used in the two randomized controlled trials. Only data collected from first year students was included in the current study.

Participants were 460 (56% female, 44% male) first year undergraduate students. Sanctioned students ($n = 110$) and non-sanctioned students ($n = 350$) were invited to complete a web-based survey. Based on this survey, students who endorsed drinking at least one drink in the past three months were included in this study ($n = 298$). The sanctioned student sample ($n = 107$; 71% male) was recruited from University Counseling Services after receiving a referral for violating the University alcohol policy. Ages ranged from 18 to 20 ($M = 18.47$, $SD = 0.59$). Participants were primarily Caucasian (85%), with 4% Hispanic, 4% Asian, 4% African-American, 2% Native-American, and 1% other. The non-sanctioned student sample ($n = 191$; 30% male) was recruited from first year orientation activities sponsored by the Office of New Student and Family Programs. Ages ranged from 18 to 19 ($M = 18.08$, $SD = 0.27$). Participants were primarily Caucasian (90%), with 4% Hispanic, 2% Asian, 1% African-American, 1% Native-American, and 2% other. There was no compensation for participation for students in either group. All participants were treated according to established ACA ethical standards and the research was approved by the University Institutional Review Board.

Measures

Alcohol Use. Typical weekly drinking quantity was assessed using a version of the Daily Drinking Questionnaire (DDQ, Collins, Parks, & Marlatt, 1985) in which participants were asked, "Given that it is a typical week, please write the number of drinks you probably would have each day." A drink was defined as "a 12-ounce can or bottle of beer, a 4-ounce glass of wine, or a shot of distilled spirits in a mixed drink". A response scale is provided for each day of the week (e.g., Monday__, Tuesday__, etc.). Weekly alcohol use was calculated by combining the reports for the seven days of the week. Previous research with adolescents and adults demonstrates non-significant correlations between this drinking measure and indexes of social desirability, reasonably high test-retest reliability estimates with coefficients from $r = .85 - .90$, and good convergence between this item and indexes of drinking quantity and frequency with coefficients of $r = .70$ or higher (Turrissi, 1999; Turrissi & Jaccard, 1991).

Alcohol-Related Consequences. Alcohol-related consequences were assessed using the Rutgers Alcohol Problem Index (RAPI, White & Labouvie, 1989). The RAPI is a 23-item self-administered screening tool for assessing adolescent problem drinking. Participants were asked "how many times have the following scenarios happened to you while you were consuming alcohol or as a result of your drinking in the past 30 days." Responses were measured on a 5-point scale ranging from never to more than 10 times. A total consequence score was created by summing the 23 items (sanctioned students $\alpha = .84$; non-sanctioned students $\alpha = .78$). The RAPI has good internal consistency (Neal & Carey, 2004) and test-retest reliability (Miller, et al., 2002) and is correlated significantly with several drinking variables (White & Labouvie, 1989).

Drinking Motives. Drinking motives were assessed using the Drinking Motives Questionnaire (DMQ-R; Cooper, 1994). The DMA-R is a 20-item measure which includes four 5-item subscales (social, enhancement, coping, and conformity). Participants are asked "Thinking of all the times you drink, how often would you say that you drink for each of the following reasons?" Items are rated on a 5-point scale ranging from 1 (*almost never/never*) to 5 (*almost always/always*). Items for each subscale are summed. The DMQ-R shows good internal consistency, construct validity, and criterion-related validity (Cooper, 1994) and both reliability and validity have been demonstrated among college populations (Martens et al., 2008). Coefficient alphas for the subscales for both groups ranged from $\alpha = .90$ to $\alpha = .95$.

Results

Data were examined for extreme cases that might impact the results of the analyses. Outliers were defined as those that were more than 3.3 standard deviations from the mean on any of the measures at baseline. Rather than eliminating outliers from the analyses, outliers at each time point were adjusted to 3.3 standard deviations above the mean (Tabachnik & Fidell, 2007).

Data were also examined for skew and kurtosis. Only one variable, conformity motives, significantly deviated from the normal distribution (> 3 skew and > 12 kurtosis) and a logarithmic transformation was used to normalize the distribution (Tabachnick & Fidell, 2007).

Drinking Behavior and Drinking Motives

Means and standard deviations for alcohol use, alcohol-related consequences, and drinking motives for sanctioned and non-sanctioned students by gender are presented in Table 1. A series of 2 x 2 ANOVAs were conducted to examine differences in drinking behavior and drinking motives by group and by gender. As seen in Table 1, results indicated sanctioned students reported significantly higher levels of weekly drinking quantity, $F(1, 297) = 7.85, p < .01$, alcohol-related consequences, $F(1, 297) = 8.02, p < .01$, and social, $F(1, 297) = 12.47, p < .001$, enhancement, $F(1, 297) = 6.55, p < .01$, and coping motives, $F(1, 297) = 75.28, p < .05$, than non-sanctioned students. Additionally, males reported higher levels of weekly drinking, $F(1, 297) = 20.84, p < .001$, and social motives, $F(1, 297) = 5.22, p < .05$, than females. For conformity motives, sanctioned females reported higher levels of conformity motives than non-sanctioned females, $F(1, 297) = 4.28, p < .05$.

The Relationship Between Drinking Motives and Drinking Behaviors

Two hierarchical regression analyses were conducted to examine the relationship between drinking motives and drinking behaviors (weekly drinking quantity and alcohol-related consequences). All data were centered to reduce problems of multicollinearity introduced into equations containing interaction terms (Aiken & West, 1991). Group and gender were entered on Step 1. The four drinking motives were entered simultaneously on Step 2. The four sanctioned status x drinking motive and four sex x drinking motive interaction terms were entered simultaneously on Step 3. The interaction terms were entered to examine differences in the relationship between drinking behavior and drinking motives between sanctioned and non-sanctioned students and to test for gender as a moderator of the relationship between drinking motives and drinking behavior.

A power calculation was conducted to determine if the current sample would be sufficient to detect a small to medium effect sizes for the main effects and interaction effects in the regression analyses. Power calculations indicated the current sample size should yield power of ≥ 0.80 to detect a small to medium effect size, with a main effects model at $R^2 = .05$ and a model with main effects and interaction effects at $R^2 = .10$ (Aiken & West, 1991).

Alcohol Use. Results of the regression analysis are shown in Table 2. On Step 1 of the model, the main effects for group and gender were significant, indicating sanctioned students and males reported higher levels of weekly drinking than non-sanctioned and female students. On Step 2 of the model, the main effects for social motives and enhancement motives were significant, indicating social and enhancement motives were positively related to weekly drinking quantity for both sanctioned and non-sanctioned students. Examination of the interaction terms on Step 3 indicated the interaction between sanctioned status and drinking to conform was significant. To examine the nature of the interaction between sanctioned status and drinking to conform, we plotted the interactions using Aiken and West's (1991) procedures (see Figure 1). For sanctioned students, high levels of conformity motives were associated with high levels of weekly drinking quantity ($r = .37, p < .01$), whereas for non-sanctioned students, conformity motives were not associated with weekly drinking quantity ($r = .00, p = .99$). No gender x drinking motive interactions were significant on Step 3.

Alcohol-Related Consequences. Results of the regression analysis are shown in Table 2. On Step 1 of the model, the main effect for group was significant, indicating sanctioned students reported higher levels of alcohol-related consequences than non-sanctioned students. On Step 2 of the model, the main effects for social motives, enhancement motives, and coping motives were significant, indicating social, enhancement, and coping motives were positively related to alcohol-related consequences for both sanctioned and non-sanctioned students. Examination of the interaction terms on Step 3 indicated the interaction between group status and drinking to conform was significant. To examine the nature of the interaction between sanctioned status and drinking to conform, we plotted the interactions using Aiken and West's (1991) procedures (see Figure 1). For sanctioned students, high levels of conformity motives were associated with high levels of alcohol-related consequences ($r = .34, p < .01$), whereas for non-sanctioned students, conformity motives were not associated with alcohol-related consequences ($r = .01, p = .88$). No gender x drinking motive interactions were significant on Step 3.

Discussion

Both sanctioned students and first year students have been identified as high-risk groups relative to other college students. Despite the high-risk status afforded to sanctioned students, factors related to heavy drinking and the associated consequences have been understudied in this population. This study extends the literature by examining differences in the relationship of drinking motives to alcohol use and alcohol-related consequences among first year sanctioned and non-sanctioned students. In particular, conformity motives were examined in addition to social, enhancement, and coping motives. Based on prior research identifying differences in drinking motives between males and females, gender was examined as a moderator.

Consistent with previous research (Barnett & Read, 2005), results of this study indicate sanctioned students reported higher levels of alcohol use and alcohol-related consequences than non-sanctioned students. Results indicated for both groups of students, social and enhancement motives were predictive of weekly drinking quantity and alcohol-related consequences, whereas coping motives were related to alcohol-related consequences only. This is consistent with prior research indicating social and enhancement motives are related to alcohol use (Kuntsche et al., 2005; Kuntsche et al., 2006), whereas coping motives are generally related to negative drinking outcomes (Kuntsche et al., 2005).

Results also indicated conformity motives were associated with alcohol use and alcohol-related consequences for sanctioned students only. Sanctioned students with high conformity motives reported the highest levels of drinking quantity and alcohol-related consequences. This is the first study to identify conformity motives as a predictor of alcohol use and alcohol-related consequences among sanctioned students. Because first year students are exposed to heavy drinking within their peer group, individuals who drink to fit in with their peers may be particularly vulnerable to social influences and negative outcomes associated with drinking, including receiving sanctions for campus alcohol policy violations. This is consistent with research indicating extrinsic motivations for drinking are related to perceptions of peer pressure, which in turn are related to alcohol use among college students (Knee & Neighbors, 2002).

Based on previous research (LaBrie et al., 2007), it was hypothesized that gender would moderate the relationship between social motives and drinking behavior. Gender, however, was not a moderator of the relationship between any of the drinking motives and either alcohol use or alcohol-related consequences. Differences in study results may have been different due to variations in study methodology. For example, the use of different measures which assess different drinking motives may have contributed to differences in findings across the studies. While the current study used the Drinking Motives Questionnaire-R (Cooper, 1994) which measures social, enhancement, coping, and conformity motives, LaBrie et al. (2007) used the Reasons for Drinking Scale (Cronin, 1997) which includes mood enhancement, social camaraderie, and tensions reduction. Additionally, the sample in the LaBrie et al. study included students across all class levels (first year students through seniors), in contrast to only first year students in this study, which may also have contributed to the discrepant findings.

Limitations and Future Research

While this study contributes significantly to our understanding of sanctioned student drinking motives, certain limitations and interpretational cautions should be considered. First, the primarily Caucasian composition of the sample and that data were collected from one site limit the generalizability of the results. Therefore, future research with more diverse samples is recommended to replicate the findings in this study. Additionally, information in this study was obtained through self-report. Self-reported alcohol use is, however, common practice in studies examining alcohol use among college and university students. Further, results of a recent meta-analysis support this usage, indicating that the reliability of self-reported drinking in college students is good, with little bias reported between participant and collateral reports (Borsari & Muellerleile, 2009). Finally, the two samples were recruited differently – one after receiving a sanction for violation of campus policy and the other as part of orientation activities. This may have led to different demand characteristics and other potential response biases between the two groups that may have impacted results.

Counseling Implications

Results of this study provide directions for prevention and intervention efforts aimed at decreasing drinking for sanctioned students. First, results of this study add to the body of research indicating sanctioned students drink more than non-sanctioned students supporting the implementation of prevention and intervention programs for this high-risk group. Findings also indicate social and enhancement motives are associated with alcohol use and alcohol-related consequences and that coping motives are associated with alcohol-related problems. Counselors working with first year students could include screening measures for drinking motives as part of their routine assessment procedures to help identify first year students who are at risk. Directions for prevention and intervention for students who endorse social and enhancement motives could include education regarding the diminishing positive effect of alcohol on mood with increased consumption and address positive expectancies related to alcohol as a “social facilitator”. For students endorsing coping motives, counselors can provide education pertaining to the biochemical impact of alcohol on the central nervous system as a depressant, therefore, exacerbating depression, as well as using cognitive-behavioral strategies including mood management and coping skills to regulate negative emotional states.

Results also indicate that for sanctioned students, conformity motives were related to both alcohol use and alcohol-related consequences. This finding suggests that screening for conformity motives may help identify first year students who are at risk for alcohol-related consequences, including receiving sanctions for violating campus alcohol policies. These students may benefit from prevention and intervention approaches that provide alternatives to drinking to cope with discomfort with others and the management of social situations. Specifically, cognitive-behavioral strategies including social skills training may be useful.

Additionally, providing personalized normative feedback regarding personal drinking relative to peer drinking may be helpful for students trying to “fit in” with their peers. According to social norming theory (Perkins, 2002), students overestimate the amount of alcohol their peers consume and this overestimation leads to participation in heavy drinking as students attempt to match their drinking levels to their perceptions of peer alcohol use. As such, students with high conformity motives may be more susceptible to this effect, as they drink to be like their peers. Thus, providing normative data to these students may help these students drink less, and, therefore, incur fewer alcohol-related consequences.

Brief motivational interventions, such as Brief Alcohol Screening and Intervention for College Students (BASICS, Dimeff, Baer, Kivlahan, & Marlatt, 1999), an intervention that uses personal normative feedback, has been shown to be effective with sanctioned students (Barnett, et al., 2007; Borsari & Carey, 2005; White, Mun, Pugh, & Morgan, 2007). BASICS is a brief intervention based on motivational enhancement (Miller & Rollnick, 2013), a non-confrontational, nonjudgmental approach designed to decrease drinking and drinking-related consequences. The BASICS intervention is implemented across two sessions, an assessment session and a personalized normative feedback session. College and university counselors can use BASICS as an early intervention program for sanctioned students. Once sanctioned, students can be required by colleges and universities to attend BASICS with a counselor.

Several online personalized normative feedback programs are also available and could be used to provide information to sanctioned students about their drinking relative to their peers. Research indicates online personalized normative feedback programs are effective in reducing heavy drinking among sanctioned students (Doumas et al., 2009; Doumas, Workman, Navarro, & Smith, 2011; Doumas, Workman, Smith, & Navarro, 2011), although programs providing in-person feedback may be more effective in the long-term with this group of students (Doumas, Workman, Smith, & Navarro, 2011; White, Mun, Pugh, & Morgan, 2007). These programs are particularly useful for colleges and universities that may not have the resources to administer BASICS. Online programs can be emailed to sanctioned students and verification of completion can be emailed to the counselor. Additionally, sanctioned students could be required to print out their feedback and bring it into a session with a counselor who can then use motivational enhancement strategies to discuss the results.

Whether delivered in-person or online, personalized normative feedback programs may be particularly useful for students with high conformity motives, as these interventions are designed to provide accurate normative data on peer drinking. Educating students that peers are not drinking as much as they believe they are may be a particular

useful strategy to reduce alcohol use among students with high conformity motives. This type of program can also be combined with other approaches, including coping strategies and social skills training to provide support for students with high conformity motives.

Conclusion

Results of this study indicate students receiving alcohol policy violations in their first year of college drink more and experience more alcohol-related consequences than first year students who are not sanctioned. Understanding drinking motives may help identify first year students who may be at particularly high risk. Findings from this study point to endorsement of conformity motives as a unique risk factor for alcohol use and alcohol-related consequences among first year sanctioned students. Providing personalized normative feedback, coping strategies, and social skills training may all be useful strategies for college and university counselors to use when working with these students.

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Table 1
Means and Standard Deviations for Drinking Variables and Drinking Motives by Sanctioned Status and Gender

Variable	Sanctioned Students (<i>n</i> = 107; 31 females)		Non-Sanctioned Students (<i>n</i> = 191; 134 females)	
	Males	Females	Males	Females
Weekly Drinking	10.47 (8.21)	7.13 (7.59)	8.72 (8.08)	3.83 (4.87)
Consequences	4.86 (5.41)	4.26 (5.44)	3.30 (3.09)	2.75 (3.07)
Social Motives	16.63 (5.21)	15.84 (5.69)	14.93 (6.06)	12.39 (5.36)
Enhancement Motives	15.21 (5.90)	14.13 (6.32)	13.58 (5.45)	11.91 (5.47)
Coping Motives	8.59 (4.30)	8.87 (4.92)	7.70 (3.70)	7.40 (3.41)
Conformity Motives	6.01 (2.02)	7.06 (4.21)	6.07 (2.09)	5.81 (2.14)

Table 2
Summary of Hierarchical Regression Analysis for Weekly Drinking and Alcohol-Related Consequences

Predictor	Drinking Variables			
	Weekly Drinking		Consequences	
	ΔR^2	β	ΔR^2	β
Step 1	0.15***		0.05***	
Sanctioned Status		-0.16**		-0.18**
Gender		0.29***		0.07
Step 2	0.24***		0.32***	
Social Motives		0.29***		0.14*

Enhancement Motives		0.24***	0.26***
Coping Motives		0.02	0.29***
Conformity Motives		0.03	0.00
Step 3	0.05**		0.06***
Sanctioned Status x Social Motives		0.30	0.37
Sanctioned Status x Enhancement Motives		-0.26	-0.52
Sanctioned Status x Coping Motives		-0.07	-0.16
Sanctioned Status x Conformity Motives		-0.64***	-0.46**
Gender x Social Motives		0.03	-0.05
Gender x Enhancement Motives		0.05	0.04
Gender x Coping Motives		0.04	-0.00
Gender x Conformity Motives		-0.07	0.08
Total R ²	.43***		.42***

* $p < .05$, ** $p < .01$, *** $p < .001$.

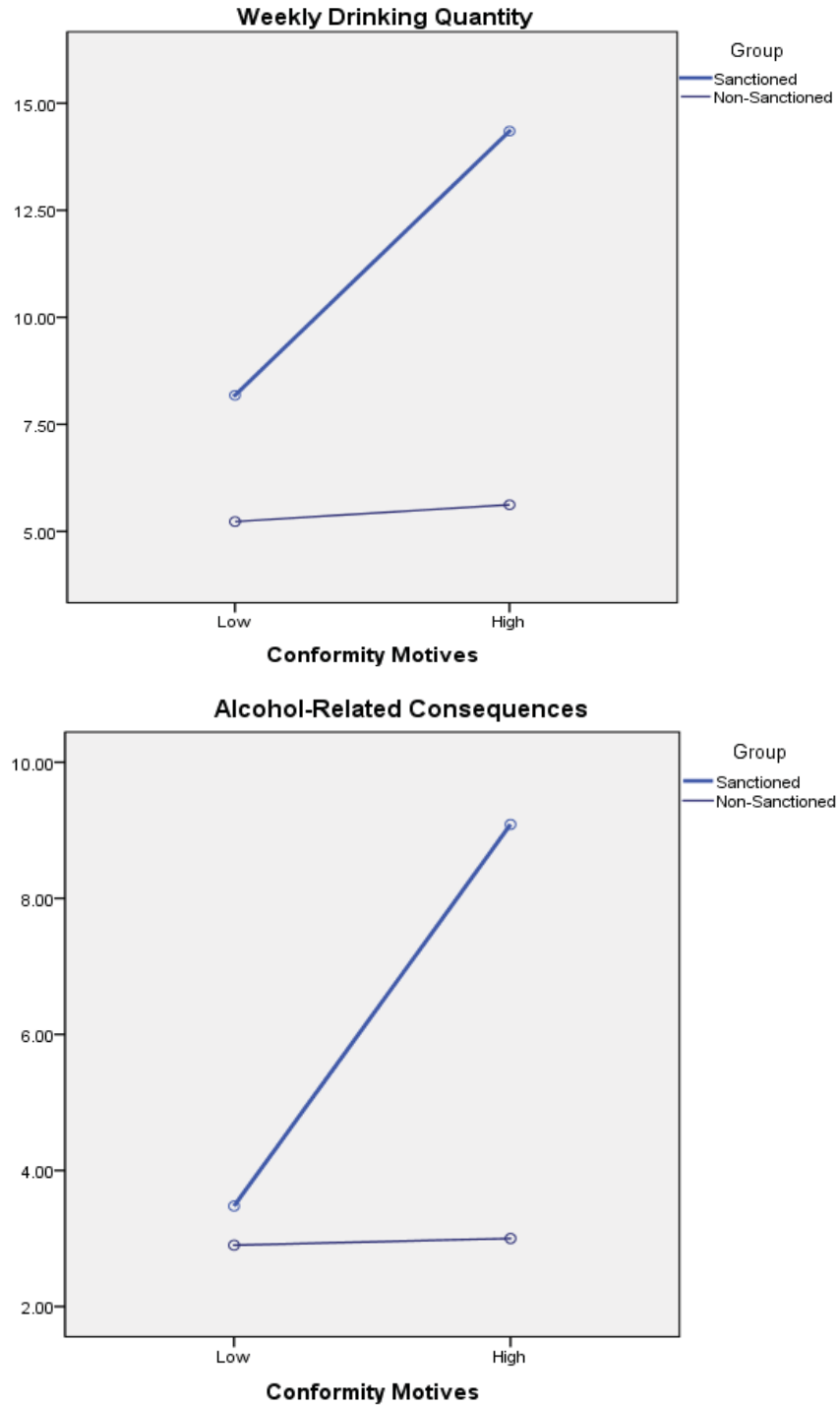


Figure 1. Conformity Motives as a Predictor of Alcohol Use and Alcohol-Related Consequences for Sanctioned and Non-Sanctioned First Year Students